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ENTOMOLOGICAL NEWS

NOVEMBER 1945

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PUBLISHED MONTHLY, EXCEPT AUGUST AND SEPTEMBER, BY
THE AMERICAN ENTOMOLOGICAL SOCIETY
PRINCE AND LEMON STS., LANCASTER, PA.
AND
THE ACADEMY OF NATURAL SCIENCES, PHILADELPHIA 3, PA.

Subscription, per yearly volume of ten numbers: $3.00 domestic; $3.30 foreign; $3.15 Canada
Entered as second-class matter April 19, 1943, at the post office at Lancaster, Pa., under the Act of March 3, 1879. Acceptance for mailing at the special rate of postage prescribed for in Section 1. Act of October 3, 1917, authorized January 15, 1921.

ENTOMOLOGICAL NEWS

ENTOMOLOGICAL NEWS is published monthly, excepting August and September, by The American Entomological Society at 1900 Race Street, Philadelphia 3, Pa., U. S. A.

PHILIP P. CALVERT, Editor Emeritus. Editorial Staff: E. T. CRESSON, JR., E. J. F. MARX, J. A. G. REHN, A. G. RICHARDS, JR., and R. G. SCHMIEDER.

Subscription price, per yearly volume of 10 numbers: Domestic, $3.00; Foreign, $3.30; Canada, $3.15—U. S. Currency.

SUBSCRIPTIONS, ADVERTISEMENTS: All communications and remittances to be addressed to **ENTOMOLOGICAL NEWS, 1900 Race Street, Philadelphia 3, Pa.**

ADVERTISING RATES: Full width of page. Payments in advance.

	1 Inch	2 Inches	3 Inches	6 Inches
One Issue	$1.00	$ 1.90	$ 2.75	$ 4.80
Five Issues	4.50	8.50	12.00	21.00
Ten Issues	8.00	15.00	21.00	36.00

MANUSCRIPTS and all communications concerning same should be addressed to **R. G. Schmieder, Zoological Laboratory, University of Pennsylvania, Philadelphia 4, Pa.**

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ENTOMOLOGICAL NEWS

VOL. LVI NOVEMBER, 1945 No. 9

Some Remarks on the Genus Apterodorcus Arrow (Coleoptera: Lucanidae)

By BERNARD BENESH, North Chicago, Illinois

Dr. G. J. Arrow, of the British Museum (Natural History), recently proposed a new genus *Apterodorcus* for *Lucanus bacchus* Hope and Westwood (1845), giving a sketchy idea of the characters defining the genus. The purpose of the present contribution is to amplify the generic characters, by description and illustrations, thus facilitating identification of the insect.

APTERODORCUS Arrow (1943). Figs. 1–10

Proceedings of the Royal Entomological Society of London, 12: 139, 1943.

Dorcus Dejean (1837), Solier (1851), Philippi (1859).
Lucanus Hope and Westwood (1845).
Sclerostomus Burmeister (1847).
Sclerognathus Philippi (1887), Heyne and Taschenberg (1909), Van Roon (1910), Bruch (1911), Germaine (1911), Kriesche (1922), Ruiz (1924), Porter (1934).

Obovate, convex, black, dorsum subopaque, venter feebly shining. Head transverse, more than twice as broad as long, declivous in front, anterad nearly straight, clypeus prominent and feebly trilobate (in large individuals) or truncate (small individuals); anterior angles broadly rounded, diverging laterad; eyes circumscribed half-way by the canthus; behind the eyes with an obtusely rounded dilatation protruding beyond the anterior angles of the prothorax, excavated on top and slightly bent upward; antennae (fig. 5) fairly long and slender, not differentiated in the sexes, scape as long as the funicle and clava, slightly bent; funicle nearly twice as long as the clava, segments apparently of equal length, progressively broadening to the

seventh segment, piceous, glabrous, shining; clava tri-lamellate, eighth and ninth segments twice as broad as long, lobate, lobes flattened and pubescent, with basal anterior portion glabrous, shining, ultimate segment semicircular and pubescent throughout; mandibles robust, multiform in males (figs. 9, 10), fairly constant in females (fig. 8), rounded externally, inside deeply hollowed.

Prothorax broader than long, front margin slightly emarginate, anterior angles obtuse, gently diverging and arcuate to basal third, obliquely truncate to basal angles, which are obtuse, base straight; lateral and basal margin slightly reflexed; pronotum less convex in the male, simple; female, on the anterior margin with two close median tubercles. Scutellum parabolic, broader than long. Elytra fused, broadest near the middle, posterad regularly rounded in female, more attenuated in male.

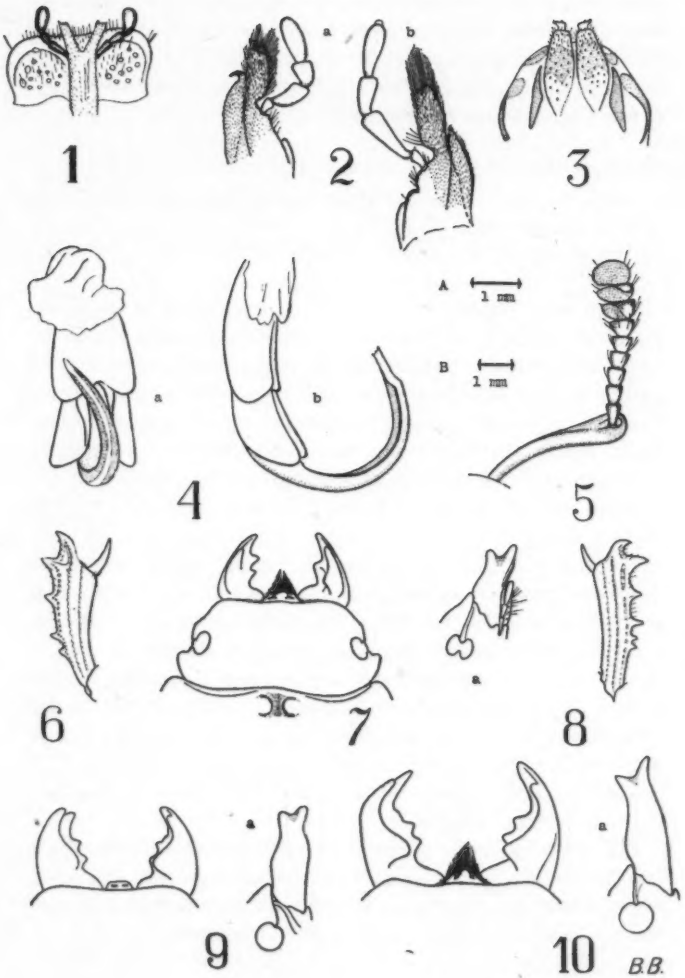
Legs fairly long and stout; anterior tibiae broad, terminal furcation well developed and bent downward in large ♂♂ (fig. 8), followed by three to four irregularly spaced strong spines; intermediate and posterior tibiae armed with two spines, the median very strong and two to three times as long as the other; tarsi one third shorter than the tibiae, praetarsus as long as the four succeeding segments combined, segments ventrad beset with long golden setae.

Head and pronotum irregularly punctured by shallow, well-spaced punctures, the pronotum of female more polished and shining; elytra finely rugulose sculptured and, in proportion, longer in the female. Both sexes apterous. Beneath, mentum (fig. 1) broader than long, anterior angles broadly rounded,

Explanations of the Figures

FIG. 1. Mentum and labium, dorsal view (♀).
FIG. 2. Maxillae, dorsal view, (a) female, (b) male.
FIG. 3. Genitalia, ventral view (♀).
FIG. 4. Genitalia, male, (a) ventral view, (b) lateral view.
FIG. 5. Right antenna, male.
FIG. 6. Left anterior tibia (♀).
FIG. 7. Head and anterior portion of prothorax (♀), (a) lateral aspect.
FIG. 8. Right anterior tibit (♂).
FIG. 9. Mandibles of male (minor development), (a) lateral aspect.
FIG. 10. Mandibles of male (maximum development), (a) lateral aspect.

Scale A = figures 1–5.
Scale B = figures 6–10.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narrowing towards base, rugose; maxillae (fig. 2) strongly constricted in front of the palpifer, inner lobe (lacinia) hooked in the female (fig. 2-a), simple in the male (fig. 2-b). Designated genotypes: *Lucanus bacchus* Hope and Westwood (1845), ♂; *Dorcus bipunctatus* Philippi (1859), ♀.

Apterodorcus bacchus (Hope and Westwood) (1845)

Lucanus bacchus Hope and Westwood, Catalogue of the Lucanoid Coleoptera, p. 26, 1845.
Dorcus bipunctatus Philippi, Anales Universidad de Santiago, 16: 656, 1859.

Hope and Westwood (1845): "Latus niger laevis elytris punctatis, capite lato antice declivi; mandibulis maris vix capitis longitudine intus obtuse dentatis in medio; oculis septo simplici parum incisis, lateribus pone oculos in tuberculum conicum exsertis; prothorace maris transverso angulis posticis rotundatis, elytris vix longioribus quam latis lateribus rotundatis, tibiis anticis 4–5 dentatis posticis in medio 1-dentatis apicibusque externis acutis. Long. corp. mas. (mand. inclus.) lin. 12½. Habitat Chiloe."

Philippi (1859): "D. niger, subovatus, capite angustiore quam thorax punctato, punctis in margine anteriore lateribusque profundius et magis confertis; mandibulis punctatis, extus bicarinatis, supra planis; tergo prothoracis punctato, punctis in medio haud obliteratis antice in medio marginis punctis duobus elevatis notato; elytris valde punctatis (punctis postice multo minoribus), antice sulcis abbreviatis confuse notatis; ventre nitidiore, lateribus valde punctato. Long. cum mandibulis 12½ lin.; latit. capitis inter oculos 3⅔ lin.; latit. thoracis 5½ lin.; latit. elytrorum totidem." [1]

Philippi's selection of the name *bipunctatus* is unfortunate and misleading; what were described as punctures are really the two frontal tubercles on the pronotum, for which "binodosus" or "bituberculatus" would be more appropriate.

The insect is well figured by Ruiz (1924) and Porter (1934); however, the indication of the sexes ♂ and ♀ is erroneous as

[1] The writer desires to express his deep appreciation to Señor Ramón Gutiérrez of Santiago, Chile, for the copy of this description.

both examples are males. Similar examples to those figured by Ruiz (1924) are reproduced here in figures 9 and 10; figure 9 portrays a small male, which agrees in every particular with the small male used by Ruiz for the illustration, and figure 10 represents a male of maximum development, which Ruiz indicated as the female (!) of the species. The ♂ genitalia here figured (fig. 4) were dissected from the latter specimen and the ♀ genitalia (fig. 3) were obtained from a specimen reproduced in figure 7. The female genitalic characters are similar to the lucanid genera *Pholidotus* Macl., *Lamprima* Latr. and *Figulus* Macl., with which group the insect probably is to be associated. The measurements of the insects [2] are:

	length × width, in millimeters		
	♂ (No. 796)	♂ (No. 4635)	♀ (No. 4906) [3]
Overall	29.0	24.4	26.9
Mandibles	4.4	3.1	2.6
Head	4.8 × 10.7	3.1 × 8.8	3.8 × 8.4
Prothorax	6.8 × 11.9	6.0 × 10.2	7.0 × 11.1
Elytra	13.1 × 11.6	11.5 × 10.3	14.6 × 11.5

The species ranges from the 35th degree southern latitude southward, along the eastern and western slopes of the Cordilleras, in Argentina and Chile, subsisting, according to Ruiz (1924), on beech (*Nothofagus obliqua*). Kriesche (1922), in recording some lucanid species from Argentina, apparently overlooked Bruch's "Catalogo sistematico de los coleopteros de la Republica Argentina," when he states: "On this occasion I would like to communicate, as hitherto no lucanids were known from Argentina, the geographically interesting fact that the Berlin Museum has *Sclerognathus bacchus* Hp. *caelatus* Blanch., *femoralis* Guer., and *vitatus* Eschsch. from Neuquen." Bruch recorded all these, plus *fairmairei* Parry, eleven years earlier, from Rio Negro, N. Huapi, and Neuquen.

Also assigned to *Apterodorcus,* solely on its comparison with *bacchus,* is Deyrolle's *tristis,* described in following fashion: "Allied to *S. Bacchus,* as regards size and form, but more depressed, and more opaque. Mandibles somewhat similar, but

[2] Deposited in the Academy of Natural Sciences, Philadelphia.
[3] Figures 10, 9 and 7, respectively.

presenting a kind of inclined plane from the external margin to the interior teeth, with a rounded tubercle in the middle of this plane in lieu of the ridge which exists in *S. Bacchus*. Head nearly similar, except the post-ocular tubercles which are less developed laterally, and much more so posteriorly. Prothorax with its sides more parallel, especially behind; its posterior angles, although likewise truncate, are much more pronounced. Scutellum half the size of that of its congener. Elytra flatter, more opaque, punctuation similar to that of *S. Bacchus*. Beneath much more opaque. Finally, this species is distinguished by its general form, its more quadrate prothorax, its very small scutellum, and its generally more opaque aspect. Hab.—Chili. Coll. Mniszech. (H. Deyrolle.)"

The species is unknown to the writer, and Dr. Arrow, from whom data were sought on the insect, states (letter Nov. 8, 1944): "I am inclined to think it must be something quite unknown to me. It is, I suppose, in the Oberthur collection." Only critical comparison of the typical material will prove whether the species is distinct; however, we are strongly inclined to consider it synonymous with *bacchus*, as some characters mentioned in the description are actually lacking, the ridge, for example, being non-existent.

Synonymies and Systematic Bibliography

Apterodorcus Arrow.

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Further Observations on the Psyllidae of Cuba (Homoptera)

By LEONARD D. TUTHILL, Iowa State College, Ames, Iowa

Herewith are presented observations on some psyllids received from S. C. Bruner of the Estacion Experimental Agronomica, Santiago de las Vegas, Cuba, since the publication of the author's previous article on Cuba Psyllidae.[1]

PLATYCORYPHA new genus

Head large, wider than thorax. Vertex with distinct medial suture, rounded smoothly into frons. Frons visible between genae as narrow sclerite. Genae swollen ventrally, not conical. Antennae long and slender. Thorax broad, flat dorsally. Mesoepisternum strongly produced ventrad. Proximal segment of metacoxa with two black claws. Forewings large, broadly rounded apically, vein R_1 very short, with large pterostigma, cubital cell broad.

Genotype: *Platycorypha princeps* n. sp. A member of the subfamily Pauropsyllinae, the species for which this genus is erected shows affinities to both *Heteropsylla* and to *Paurocephala magnifrons*. The principal points of difference from the latter are the very broad head, distinctly wider than the thorax, the narrow frons, the very short R_1 and broad cubital cell in the forewing. It differs from *Heteropsylla* in the much greater size, larger head, wing venation and type of genitalia.

Platycorypha princeps new species

Length to tip of folded wings 3.5–4 mm.

Color: Females entirely green except antennae dark apically and tip of genital segment dark. Males usually with thorax, at least, yellow. Wings hyaline.

Structure: Head large, wider than extreme width of thorax including wing bases. Vertex short and broad, rounded down anteriorly, smoothly continuous with frons, a sharp suture between vertex and genae, medial suture prominent. Lateral

[1] ENTOMOLOGICAL NEWS, 55: 93–96, 1944.

ocelli large, borne on raised prominences of vertex at posterior angle of eyes. Frons nearly covered by enlarged genae. Median ocellus large. Genae swollen ventrad, somewhat angularly produced, not conical. Clypeus prominent, broad. Antennae very long and slender, 3.3 times as long as width of head, longer than body. Eyes large, deep constriction around base. Thorax broad, moderately arched dorsally. Pronotum long. Mesoepisternum very strongly produced ventrad. Metacoxa with small caudal spurs, not produced anteriorly. Metatibia with large basal spine, several black spines apically. Proximal segment of metatarsus with two black clawlike spines. Forewings large, broad, rounded apically; basal vein short, M and Cu with common petiole, R long, R_1 very short to large pterostigma, Rs sinuate, long, marginal cells large, cubital much larger than medial, Cu_1 strongly arched. Venation of hind wings prominent, R and M with common petiole.

Male genitalia small. Proctiger short, produced caudad as blunt lobes. Forceps as long as proctiger, stout, simple, black-tipped; in lateral view somewhat turned caudad apically; in caudal view broad, arched, apices almost touching. Female genital segment small, much shorter than rest of abdomen, dorsal valve high, abruptly narrowed to short, upturned styliform apex, ventral valve nearly as long as dorsal, sharp apically.

Holotype, male, *allotype* female, 5 male and 7 female *paratypes,* 1 fifth instar nymph collected at Santiago de las Vegas, Habana, Cuba, June 22–28, 1944, by S. C. Bruner and V. Barry on *Myroxylon toluiferum* H. B. K., "Balsamo de Guatemala." Two additional female paratypes are from Mexico, one bearing the data, "Finca Esperanza, Chiapas, June 29, 1938, Dr. R. Nettel col." the other, "Jalapa, Veracruz, March 30, 1933, Alfonso Dampf col."

The holotype, allotype and paratypes are in the author's collection, paratypes are also in the collections of the Estacion Experimental Agronomica and Alfonso Dampf.

Heteropsylla cubana Crawford

Several specimens collected by J. Acuña and S. C. Bruner at Santiago de las Vegas, Havana, February 6, 1944, were breed-

ing on *Leucaena glauca* (L.) Benth., "aroma blanca." These are identical with Crawford's specimens which were collected at Havana from the same host plant. The specimens which Crawford included as paratypes taken from *Poinciana regia* at Santiago de las Vegas are distinct and represent a species apparently undescribed. As no type specimen was selected by Crawford one of the males from Havana is being selected as the type.

Epicarsa sp.

One female specimen belonging to this genus was collected by S. C. Bruner at Santiago de las Vegas, November 16, 1923. This is apparently distinct from *Epicarsa corniculata* described from one male from Para, Brazil, but due to the condition of the specimen and the paucity of information available concerning this genus it is not described at this time.

Coelocara new name

The author's prior use of this name (Ent. News, 55: 93, 1944) is a nomen nudum under the amended International Rules of Zoological Nomenclature. This name is proposed to replace *Freysuila* Schwarz which was described in the Proceedings of the Entomological Society of Washington, 4: 196, 1899. Schwarz did not have the same insect before him as that originally described by Aleman under the name *Frey-suila dugesii*. The latter is a member of the Psyllinae. The type species of the genus *Coelocara* is *Coelocara schwarzi* (new name for *F. dugesii* Schwarz).

Mitrapsylla cubana Crawford

Several males and females from Victoria de las Tunas, Oriente Province, March 29, 1916, collected by J. R. Johnston, appear to be this species. The specimens are mostly quite teneral but are without indication of host plant. The male forceps are similar to those described by Crawford for *M. albalineata*.

Katacephala grandiceps Crawford

Bruner writes that this species, which has not previously been recorded from Cuba, is evidently rather common in the lowland forest growth. Specimens at hand are from Cojimar, Havana Province, July 29, 1928, collected by S. C. Bruner.

Katacephala tenuipennis Tuthill

One specimen of this form is from Santiago de Cuba, Oriente Providence, October 4. 1928, F. Silvestri and S. C. Bruner collectors.

Notes on the Genus Cryptostemma with a New Record for Georgia and a New Species from Puerto Rico (Hemiptera: Cryptostemmatidae)

By Robert L. Usinger, University of California

The genus *Cryptostemma* H. S. 1835 (= *Dipsocoris* Haliday, 1855) is well known in Europe where the type and only species, *alienum* H. S., is apparently quite common. Butler (1923) describes the habits of *alienum* in Britain as follows: "The favorite haunts of *Dipsocoris* are the large banks of shingle that are to be met with here and there beside most of our Scottish rivers. In such places, on turning over stones near the edge of the water, one is almost certain to see the little creature gliding swiftly along among the damp gravel, and hiding itself in some crevice. As far as I have seen, it does not appear to like too much wet, and I have never noticed it, as Haliday seems to have done, on the water, nor flying. When alive, the wing-cases are purplish-brown with a whitish bloom-like gloss produced by the fine adpressed hairs with which they are covered."

In 1925 McAtee and Malloch first recorded the genus from the Western Hemisphere, describing three new species as follows: *pedunculatum* from Panama (one specimen); *smithi* from the Island of Grenada, B.W.I., (two specimens); and *uhleri* from Mexico and the island of St. Vincent, B.W.I., (two

specimens). Nothing was added on the biology of these American species.

I can now record the collecting of large numbers of these insects along streams in the mountains of North Georgia and high up in the Sierra Palm Forest on El Yunque in Puerto Rico. In both cases the bugs occurred under conditions identical with those described by Butler. It seems clear that *Cryptostemma* will prove to be a widely distributed genus when collectors concentrate on its particular microhabitat.

Cryptostemma uhleri McAtee and Malloch

Found commonly beneath stones along the banks of the stream which forms the outlet to Lake Trahlyta, Vogel State Park, Georgia, Sept. 9, 1943. Both nymphs and adults were taken. The adults resembled small Collembola superficially and moved so fast that it was necessary to stop them with a little pressure of a finger before picking them up with forceps.

These specimens key out to *uhleri* and agree with the female holotype, No. 27576, U.S.N.M., Cordoba, Vera Cruz, Mexico, April 11, 1908, A. Fenyes Coll., which I have examined, in size, pronotal proportions, and hemelytral venation but differ in being slightly darker in color. When males of the Mexican species are collected it may be found that genitalic differences exist between Mexican and Georgian forms. Meanwhile, the name *uhleri* must be used since the females show no significant differential characters.

The male genital claspers of Georgia specimens are described below. The right clasper is a broadly expanded plate-like appendage, half as broad as long, with the sides sinuate and the upper or inner apical angle slightly produced. The left clasper differs from the left clasper of *pedunculatum* in being more uniformly slender throughout, obliquely bent at apical fourth, and not enlarged at apex. Presumably these large, asymmetrical claspers are homologues of the basal pair of large, symmetrical clasping organs "emanating from lateral margins of the segment in front of base of the hypopygium proper" (McAtee and Malloch, pp. 3 and 4). Smaller appendages occur on the dorsal

surface of the capsule itself but details of these will have to await a comparative study of the male genitalia in this entire group. I find no similarities or even homologous structures in the single damaged male of *alienum* H. S. before me.

Cryptostemma pratti new species

Relatively short and broad with costal margins of hemelytra expanded, sinuate subbasally and constricted at cuneal fracture. Color fulvous with whitish testaceous clavi, except apically and narrowly at bases. Discal and apical cells of hemelytra narrow at point of contact, neither separated by a longitudinal vein nor by a distinct transverse vein.

Head almost half again as broad as long, 18::13, the eyes one-fourth as wide as interocular space, 3::12, slightly less than twice as long as broad, 5½::3, upper surface strongly convex, impressed at base of convex clypeus. Rostrum not reaching apices of front coxae, stout at base, tapering apically. Antennae approximately twice as long as width of pronotum, 50::24, proportion of segments one and two, 3½::7, the third and fourth segments subequal, each about three times as long as second.

Pronotum slightly longer than head, 12::11, twice as broad as long, the anterior angles and humeral angles rounded. Anterior and posterior margins nearly straight, lateral margins straight but flaring posteriorly. Disk moderately elevated, calli indistinguishable except for a short transverse impression behind each antero-lateral angle. Scutellum broader than long, 14::9, the sides straight and disk flat.

Hemelytra two and one-half times as long as width of pronotum, 59::24, the corium comprising half the length and the cuneus comprising one-fourth of the total length along costal margin. Costal margin roundly expanded just behind base, then briefly straight along expanded embolium. Broadly arcuate behind basal sixth to cuneal fracture. Fracture very deep, reaching middle of corial disk, slightly oblique. Venation as in *pedunculatum* except that the discal and apical cells are strongly narrowed at point of contact, the apical cell not pedunculate but narrowly joined to basal cell.

Male genitalia strongly asymmetrical, without the plate-like appendage of the right side as described for *uhleri*. The left clasper is narrow and slightly arcuate, four times as long as wide, with a subapical bristle arising from one side and curving out beyond rounded apex. A pale mediodorsal arm projects backward from the base of the capsule and this may be homologous with the small "clasper" illustrated by McAtee and Malloch for *pedunculatum*. The structure is broader throughout and expands into short rounded propections at apex. There are two tapering immovable arms, one short and sinuate and directed to the left at middle of base and the other long and straight, tapering to an acute apex, arising from the left side of capsule at apical third and directed to the right.

Color uniformly pale brown to fulvous except for stramineous disk of clavus and white wings beneath this area, the extreme base and broad apex of clavus fulvous, however. Eyes reddish. Legs, rostrum and antennae testaceous.

Size: Length 1.36 mm., width (pronotum) 0.41 mm.

Holotype, male, *allotype,* female, and seven *paratypes,* collected beneath stones at a mountain waterfall, El Yunque, Puerto Rico, April 29, 1945. The species is named after Dr Harry Pratt who did so much to facilitate my work in Puerto Rico. The types have been deposited in the U. S. National Museum.

This species is certainly closest to *pedunculatum* but that species has a pedunculate apical cell, unicolorous hemelytra, and entirely different left genital claspers.

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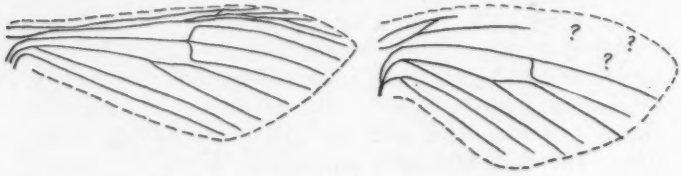
The Geometrid Tracheation

By Wm. T. M. Forbes, Cornell University, Ithaca, New York

I am not aware that any tracheation of this family has been published, and the interpretation of the radial system is a little uncertain. Through the kindness of Mr. Lawrence Rupert I have two fresh pupae of *Semiothisa granitata,* that show most of the tracheation very clearly, though the transparency is not sufficient to show a couple of important points.

In both wings the basal connections are clear: *Sc* and *R* are each separate stems from the base of the wing, but run parallel; median is separate, but definitely belongs to the posterior group of tracheae, curving up from behind; *1st A* is from the base of *Cu,* separating about where the joint of the wing would be in the adult, and the other anals are on a separate stem, the two anals of the hind wing separating abruptly at base of wing.



Pupal Tracheation of Semiothisa granitata

In the fore wing radius shows its forking very clearly in the younger pupa, which has R_{4+5} and R_{2+3} separate, but R_1 arising out of the base of the stalk of R_{2+3}; in the later one R_1 has fused with *Sc,* except for a very short oblique piece, and R_3 and $_4$ have fused for a substantial distance. The accessory cell, then, is the true one (*1st* R_2) and the missing radial branch in this form is R_1 (except for the minute fragment which becomes the "cross-vein" between the accessory cell and *Sc*).

The stem of media forks abruptly into three at the point which would represent the end of the cell, but this may be assumed to be a secondary condition, since there is no likelihood that the discocellulars are deflected portions of M_1 and M_3. *First*

A shows its trachea plainly, but there is only one more trachea, *3rd A* being unrepresented.

In the hind wing, so far as it can be seen through the pad of the fore wing, R_1 can be seen plainly arising out of the *R*-trachea near its base and joining *Sc*; and the media is so far as visible like the fore wing, but unfortunately M_1 could not be seen. As the upper of the two visible tracheae is exactly in line with the base it is probably the trachea of the missing vein M_2. *First A* is normal, and *2d* and *3rd A* simple, there being no sign of the forking of *3rd A* which some primitive forms show.

Whether this tracheation is normal for the whole family is of course a question, since the Geometridae are notoriously unstable in venation—closely related forms, and even individuals of the same species, often showing quite different arrangements of the radial branches. In fact the condition of the very primitive South American Hedylinae suggests that the true acc. cell (*1st* R_s) is on the way to obliteration, and that the two accessory cells may in some groups be *1st* R_1 and *1st* R_2. The Hedylinae also have preserved the third anal in fore wing as a distinct vein, and should have an interesting tracheation.

More on the Origin of Flight

By Chapman Grant

Dr. William T. M. Forbes says, in "The Origin of Wings and Venational Types in Insects," that the lateral extensions which later developed into wings "served to plane through the air, more or less like a flying squirrel or a flying fish, before true flight was developed."

This is a thought that one often sees expressed and I believe that it is opposite to what really happened. In a note which appeared in "The Auk" covering this subject, I pointed out that in the case of soaring animals such as fish, squid, marsupial, squirrel, snake and lizard the gliding apparatus was perfected and no musculature for flapping was developed. In this

case the mortality by natural selection would eliminate the individuals less apt at soaring, thus perfecting this art; e.g., if any soaring individual had made any attempt to flap instead of soar, it would have been less efficient at the moment with fatal results. Hence, once a soarer, always a soarer.

On the other hand, animals that progressed on water, and possibly on land also, and were used to escaping by frantic efforts in the use of their limbs, were starting with muscle-activated organs. Individuals that, by the fortuitous flattening of the fore or of all four appendages used in swimming or otherwise, were able to sustain themselves in the air for one or two beats were on the right road to true flight. The individuals that could sustain themselves for three flaps survived, whereas their two-flap brethren fell. This, I believe, was the true origin of flight.

How then did insects fare? Apparently their wings never were ambulatory organs? Turn again to Dr. Forbes who says, p. 382: ". . . we must call special attention to two leg-muscles running from the edge of the pleura to the coxa. . . ." So we do have a direct connection between the leg muscles and the tissues that were to develop into wings. Dr. Forbes now visions, p. 383, "According to one school the pre-flying condition took the form of a strongly flattened insect, essentially like an apterous cockroach . . . that developed the habits of climbing up the trunks of the Devonian trees and planing off to a new locality. . . . Others would have in mind an insect that was at home in the water, and developed the habit of leaping out from time to time like a flying fish." Dr. Forbes follows the flying squirrel school of thought and goes on to say, p. 385, ". . . contraction of the basalar muscle . . . would obviously pull the front of the wing down as well as move the leg. . . ." We see that he now desired to dissociate the wing from the leg. So we are back to a creature that really flapped by muscular efforts of its appendages and not a planer.

I resubmit that once a soarer always a soarer: That true flight developed from creatures that could sustain themselves by violent exertion for a very short distance. My belief is that

this did not happen on land, but that, as with birds, flight started in the water with the use of fin-like appendages, used for swimming. Certain groups took to surface swimming, pelagic life, and those which jumped clear and planed never learned to fly, whereas those that struggled along the surface by flapping did develop true flight by the escape of those which at first could sustain themselves for just one or two flaps.

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Personals

Dr. C. T. Brues. A dinner was given on October 3 at the Faculty Club of Harvard University in honor of Dr. Brues, professor of entomology, on the occasion of his retirement with the title of emeritus. There was an attendance of eighty. A bound book, containing letters of appreciation and a silver bowl were presented to him. Dr. F. M. Carpenter, who will succeed Dr. Brues as professor of entomology, presided.

Dr. Charles P. Alexander, professor of entomology and head of the department of entomology and zoology, has been appointed acting dean of the newly established School of Science at the Massachusetts State College.

Dr. Angelo M. da Costa Lima, distinguished Brazilian entomologist, formerly of the Instituto Oswaldo Cruz, on August 31 was awarded the degree of Doctor of Agronomy, *honoris causa,* by the Universidade Rural of Rio de Janeiro, being the first to receive this degree. Since Brazilians are not allowed to hold two positions in government-operated institutions, Dr. Costa Lima was obliged, some years ago, to give up his paid post at the Instituto Oswaldo Cruz while retaining his post as Professor of Agricultural Entomology in the Escola Nacional de Agronomia. He has, nevertheless, continued to work at the

Oswaldo Cruz three days a week without remuneration. Dr. Costa Lima is the author of "Insetos de Brazil" of which six volumes have been prepared and published. For this work, and by a government decree, he has received a monetary award of 140,000 cruzieros, with which sum he plans to travel in the United States, and if possible, also in England and on the Continent. In 1943, the Entomological Society of America elected him an honorary fellow, he being the first and only foreigner to receive this honor.

Notes and News in Entomology

Under this heading we present, from time to time, notes, news, and comments. Contributions from readers are earnestly solicited and will be acknowledged when used.

"How Long Do Entomologists Live?" Reconsidered. It is doubtful that it would be worth while to write a scientific article to demonstrate that nonagenarians tend to die at an older age than babies in general. Nevertheless, Mr. Weiss ("How Long Do Entomologists Live?", Entomological News, LVI, 1945, pp. 189, 190) has found it at least interesting to point out, in a not too complimentary fashion, that entomologists tend to die at an older age than babies in general.

The average age at death for 2,187 entomologists born between 372 B.C. and 1920 A.D. was found to be 65.48 years, and for the 1,600 entomologists born between 1500 and 1859, the average age at death was 69.09 years. These are thought to be high averages. Confining our attention, for the moment, to the latter group, I should think it might be more fruitful to point out that, if entomologists lived *no* longer than people in general, they would have had to live by and large to at least age 54, according to the Breslau table cited (Halley's data) to be classified as famous entomologists, and to age 40, according to the U. S. life table (1930–39) for white males. In other words, for those who attain age 40, the average age at death is 69.

One further note on the group of 2,187 entomologists. Assume that, in general, age 40 must be attained before a person

is a good enough entomologist to be listed in this group, even though, no doubt, many of them were listed for work done at a much later age. The following table gives the percentage distribution of deaths found for the entomologists by Mr. Weiss and the corresponding distributions from the Breslau Data, the American Experience Table, and the table for U. S. white males, 1930–39, for those who attain age 40.

Age at death	Percentage of Entomologists dying at given age	Percentage of those attaining age 40 dying at given age		
		Breslau Data (Halley)	American Experience Table	U. S. white males (1930–39)
Under 60	30	46	26	23
60 and under 70	23	22	25	24
70 and under 80	29	22	30	31
80 and over	18	10	19	22
Total	100	100	100	100

All this is not to prove that entomologists live no longer than people in general who have attained the age which is required by entomologists to be classified as such in an historical document. It is hoped that they do. A much more refined study than that made by Mr. Weiss is required, however, to yield even tentative conclusions. Certainly, before giving too much credit to the parents of entomologists, one should examine the factors which differentiate entomologists from babies.—E. DOUGLASS BURDICK.

Philippine Journal of Science. Dr. C. P. Alexander has received a letter from the distinguished chief of the Division of Publication of the Philippines, D. Eduardo R. Alvarado. With minor omissions, the very informative account of the fate of a leading scientific journal that the latter gives is as follows:

"We are very glad to hear again from you after a lapse of about four years. Already we have started reorganizing the Division of Publications which had remained closed during the

Japanese regime, and have begun recalling all our prewar personnel.

"We suffered terribly in this war, our losses being very great. This is particularly true in the city of Manila. Besides the loss of a great number of lives, private and public buildings, including educational and scientific institutions, among them the Bureau of Science—the repository of collections of great interest and importance to the scientific world, as well as publications —were completely destroyed. Among the destroyed publications was the Philippine Journal of Science,—printed copies, manuscripts, illustrations, etc. It pains us to think of such losses. In our program of reorganization we have included the revival of the Journal of Science, as well as other publications, and as soon as funds, facilities and materials are available, we shall start printing them. As usual, we shall be glad to receive your contributions for publication in said journal.

As we have said, this war has brought us untold sufferings and privations. Fortunately for most of us, we have survived such terrible experience, and from scratch we will try to begin where we left off before. God helping, we hope we shall get on our feet again.

Snakes. Major Grant, publisher of "Herpetologica," calls out attention to the blind snake that lives in the nests of termites and adds that entomologists seem to have more information on the association of reptiles and termites and ants than is available in herpetological works. He would be glad to publish papers on these two subjects or to assemble notes, giving full credit to the source, in "Herpetologica." Please write Major Chapman Grant, 2970 Sixth Avenue, San Diego 3, Cal.

Current Entomological Literature

COMPILED BY THE EDITORIAL STAFF

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the current or preceding year unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of Journals given at the end of the literature. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

GENERAL—On the type of the genus *Hypselopus* Burmeister, 1835. [87] 3: 67–76. On the status of names *Pompilus* Fab. and *Psammochares* Lat. [87] 2: 377–396. Use of new name. [87] 3: 131–136. Suspension of the rules for *Euthalia* Hübner. [87] 2: 401–409. On Article 30 of the International Code. [87] 2: 149–156. Need for the suspension of the rules for *Strymon* Hübner, 1818. [87] 2: 361–374. Suspension of the rules for *Euploea* Fab., 1807. [87] 2: 337–345. Suspension of the rules for *Bracon* Fab. (1804–05). [87] 2: 321–332. Suspension of the rules for Argynnis Fab., 1807. [87] 2: 309–318. Twenty-one names in the Orthoptera added to the official list of generic names in zoology. [87] 2: 147–160. **Bolivar Urrutia, Ignacio**—Necrologia [104] 12: 336–38. **Bromley, S. W.**—Insect enemies of the house fly, Musca domestica. [6] 53: 145–52. Robber fly and Japanese beetle. [19] 40: 44–47. **Burr, M.**—Current note: American entomologists and the War. [21] 57: 91–92. **Davis, William Thompson**—Biographical note. [6] 53: 127–35, port. **Dean, Smith & Kelly**—Fourteenth or 1944 annual insect population summary of Kansas. [103] 18: 85–99. **Donisthorpe, Horace**—Ants as carriers of disease. [8] (4) 6: 185. **Eyles, E. D.**—How does a fly land on the ceiling? [107] 20 (1–3): 14–15. **Goldschmidt, R. B.**—Mimetic polymorphism, a controversial chapter of Darwinism. [Quart. Rev. Biol.] 20: 147–164. **Grensted, L. W.**—Pleuron, pleura and pleurite. [8] 81: 162–63. **Gunton, Williams, Slater & Uvarov**—Insects and weather. [109] 10: 19–21. **Hemming, Francis**—A list,

with prices, of publications by the "International" Commission on Zoological Nomenclature since 1938. [7] 38: 298–300. **Madden, A. H.**—A brief history of medical entomology in Florida. [39] 28: 1–7. **Miller, David** (see also under Diptera). **Mosely, Martin E.**—The designation of certain genotypes in the Trichoptera. [108] 14 (3–4): 46–47. **Poulson, D. F.**—Chromosomal control of embryogenesis in Drosophila. [90] 79: 340–363. **Roebuck, A.**—How shall we name insects? [20] 32: 185–86. **Scharrer, Berta**—Experimental tumors in an insect. [68] 102: 102. **Schwarz, H. F.**—Wax of stingless bees (Meliponidae) and the uses to which it has been put. [6] 53: 137–44. **Smith, H. M.**—Categories of specific names in zoology. [68] 102: 185–189. **Steyskal, G.**—Remarks upon spatial relationships in entomological descriptions. [19] 40: 57–59. **Weiss, H. B.**—Insect food habit ratios of the Lloyd-Cornell Reservation. [6] 53: 167–68. William Thompson Davis—1862–1945. [6] 53: 127–135, ill. **Wellington, W. G.**—(See under Anatomy, etc.) **Wright, S.**—Genes as physiological agents (Drosophila). [90] 79: 289–303.

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SPECIAL.—Bulletin of Zool. Nomenclature. Vol. 1, pp. 87–118.—Publication of proposals submitted to the Intern. Comm. Instructions to authors laid down by the Intern. Comm. in May, 1943. On the status under Art. 3 of the Intern. Code, of a trivial name consisting of an unlatinised modern patronymic. On the status, under Art. 3 of the Intern. Code, of a specific or subspecific trivial name consisting of a phonetic reproduction of the initial letters of two or more modern patronomics.

LIST OF JOURNALS CITED

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THE DIPTERA OR TRUE FLIES OF CONNECTICUT. FASC. 1. EXTERNAL MORPHOLOGY; KEY TO FAMILIES TANYDERIDAE, PTYCHOPTERIDAE, TRICHOCERIDAE, ANISOPODIDAE, AND TIPULIDAE. By G. C. Crampton, C. H. Curran and C. P. Alexander; with an Introduction by R. B. Friend. Hartford, 1942. Connecticut State Geological and Natural History Survey, Bulletin No. 64. 509 pp., text-figures and 4 plates.

This work is part six of the Guide to the Insects of Connecticut; the previous parts included the orders Euplexoptera, Orthoptera, Hymenoptera, Hemiptera and Odonata. In the present part, Dr. Crampton gives a lengthy chapter of 111 pages in which will be found very thorough analysis of, and discussion on, the various terms applied to the sclerites, etc., of the Diptera, including the genitalic structures of both sexes, and fourteen figures and thirteen pages of bibliography. This chapter I consider one of the most valuable features of the work. Dr. Friend has four pages and three plates on the wing venation; and a key to the families of Diptera is given by Dr. Curran. The remainder of the work is Dr. Alexander's taxonomic treatment of the families included, and gives keys to the genera and species, with figures illustrating important features of some species. References to original descriptions, published illustrations, and Dr. Alexander's own descriptions, the known distribution, and Connecticut records, are also given of each species. If subsequent fascicles of this work are produced along these lines, we will have a valuable contribution to the Diptera of North America. E. T. CRESSON, JR.

Obituary

Mr. FD. LE CERF died during the past winter after a short illness due in part to lack of heat and insufficient nourishment. His collection and his library are now at the Muséum National d'Histoire Naturelle.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

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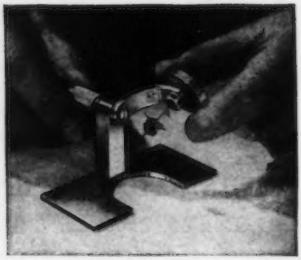

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